HARDCOPY
slobytes

what's new
by bob ward

P R O C R A S T I N A T I O N, the worse disease a newsletter editor can have. This past month, even after taking Zinc, Coldeze, etc. I still had a case of procrastination. This coupled with us being away last weekend for the 3 day holiday, put me behind as usual. Yes, it will probably happen again, but be assured you will receive your newsletter before the meeting. Usually it is posted a day or two before you receive the hard copy at www.thegrid.net/slobytes/news.htm.

Last month's early meeting is easy to write about since I'm the one who was demonstrating the software. Those of you who are into internet music should have been there. We started out showing WinAmp (www.winamp.com), the FREE, widely used software package that plays music files. Their newest version 2.6 came out as I am writing this article. I downloaded it but have hot even installed it yet.

We discussed MP3, the new, highly compressed music file format. In the past you commonly played WAV files which were very LARGE and took up MEG's of hard disk space. MP3 compression reduces those files to about 1/10 their original size. They do this by cutting out many of the high and low frequencies that we can't hear anyway. True your dog or cat won't like listening to music in MP3 format, but for you and me, we won't know the difference. Typically music taken off the net will be played at 128 kbps. You can sacrifice file size, increase fidelity with certain commercial programs and increase the kilobytes/sec sample rate. I find 128 kbps sufficient. MP3

hard drive problems

Merrill Friend, Tampa PC User's Group

When starting up my personal computer recently I found that Scandisk was under the mistaken impression that I had not turned off my computer properly and insisted on checking out my directory structure as well as my hard drive for drive problems. That has happened before when there was a power outage or for some other reason the computer was powered down and not correctly turned off, but in those cases Scandisk only checked out the directory structure so this was a bit different. Now it wanted to check out the entire drive. Nevertheless I didn't expect anything serious. I was certain I had powered down correctly but it seemed a bit mysterious that Scandisk wanted to check out the entire drive. Scandisk has never found anything serious

CLUB CALENDAR

march 5th

1 pm
Chad Dodd will extend Alan's Raul's January introduction to Linux

2:30 pm
Terry Wingate, IRS e-file coordinator for the central coast will speak to us about the IRS Electronic Filing System

in this issue...

Let's make records into mp3's
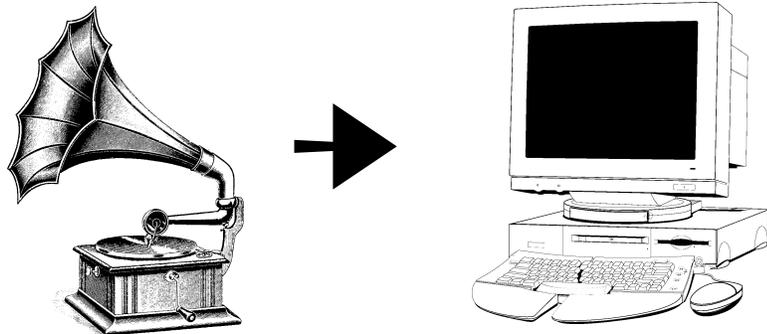
Several individuals at our last meeting requested a method for moving music from either tape or records to a computer hard disk either as WAV files or MP3 files. The information below was taken off the net. I have not tried the solutions presented here but they seem logical. Also note, if you purchase EASY CD Creator 4.0 Delux all the software for making the conversion is included, along with methods of reducing hiss, background sounds, clicks, etc.

: : I want to convert some audio tapes and possibly VHS
: : tapes to audio CD-R to be played on CD player. I have
: : a SB sound card. Can I connect the phone-out of my
: : receiver to the mic-in of the sound card and record it
: : into digital format? If so, what program should I use
: : to record it? And into what format, .wav or .cda?
: : Thanks for any help.
: : Ming

Ming,
You should use the line-out of the tape-deck/VHS recorder
and the line-in of the soundcard; this will give you a
better S/N-ratio.

Use any recorder-software to record to .wav-format; you could even use the recorder which is included in Windows95. It would be better to use something like Sonic Foundry's Sound Forge, which is a professional package. There's a stripped down version (Sound Forge XP) for around $ 100. Then you'll need software to record the CD's. Many recorders come with software which enables you to make a CD-DA using .wav-files. A drawback of many of the cheaper programs is that they don't enable you to set the time between tracks.
Patrick.
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http://www.hitsquad.com/smm/programs/Singulator/
Shareware: 45 day unlimited use. $29 registration

what's new

files can not be heard over a standard music CD player but many MP3 players are out there. Let me explain. The players have no moving parts but lots of RAM on which to store MP3 music downloaded from your computer. So will hold 8 to 10 hours of continuous music. Price ranges between $100 and $200 and are real popular with the younger generation.

So this brings us to the point, how do we get music onto a CD that we can play anywhere. First these files must be converted to WAV files (remember the LARGE files I mentioned before). Prerequsite: plenty of hard disk space. A typical CD has the capacity of holding 600+ MEG's of music which comes from your hard disk first. It's nice to have a 2 GIG empty partition for this conversion. WinAmp does a very good job of making this conversion between MP3 and WAV files (called ripping). WAV files can then be converted by the software that came with your CDRW, (Easy CD Creator with my HP unit) to your CD in a format that can be used on ANY music CD player. Of course if you have a CDRW, then you probably have another CD ROM installed (read only) as well. It is very easy to copy your music CD's with this setup, similar to copying files between two floppy drives, but taking much longer. Software that writes to CDRW blank disks has the option of testing the CD first to make sure there arn't any bad places on the disk. This doubles the copy time ~1 hour, but assures you that a good copy has been made. For music CD's I usually bypass

people helping people

NAME	PROGRAM(S)	PHONE NO.	HOURS TO CALL
Bill Roch	Ami Pro	466-8440	anytime
Don Morgan	Word 6.0, Equation 3.1	543-6241	anytime
Dan Logan	Internet, MS Publisher	927-0515	M-Sat 8-6, Sun 12-6
Bob Hunt	Win '95, '98 Win3.11	461-1444	days
Bob Ward	Netscape, Win '95, '98, 3.11	528-0121	evenings

We could use some more volunteers here. If interested, contact Bob Ward!

the surf board
by dorothy kirk
ibm/pcug redding, kirk@snowcrest.net

In the midst of gray, rainy days, but not too far from the beginning of Spring, thoughts often turn to the delights of the coming season. This month caters to the yearning for planning and planting gardens for the coming Spring and Summer. Peruse a variety of sites dedicated to gardening. Consult garden encyclopedias; order a catalog or make an early purchase online; savor great photos of flowers and landscaping designs; and, if you want, you can read directions for making your own garden pool. Are you an organic gardener? That, too, is covered. How about recipes for your garden produce! The casual or avid gardener should find some Web sites offered this month to their liking.

THE GARDEN HELPER http://www.thegardenhelper.com - An online garden encyclopedia, listen of music, beautiful photos, animations, a screen saver and more.

BLACKTHUMB BOB'S GARDENING http://www.retrorock-it.com/Blackthumb - A gardening magazine with how-to features and humor, thoughts, etc. Also gardening tips galore, product reviews, and links.

A SMALL CHANGE GARDEN POND http://pw2.netcom.com/~wandaron/gardenpond.html - Build a garden pond for less the $100. Links to help you.

VIRTUAL GARDEN http://www.vg.com - An excellent site - just about everything you would want to know about gardening. It includes a plant encyclopedia, news, resources, regions, forums, etc.

ETERA http://www.etera.com/home/default.asp?SrcID=1104 - Take an interesting tour of the Etera commercial gardens and view an animation of the growing process. Order a free catalog. Refer to the Gardening Library database of 1000's of gardening tips. Links to other perennial sites. Download a screen saver. View and purchase perennials online.

HOUSE NET: LAWN & GARDEN http://www.housenet.com/main.asp?CategoryID=2 - This is a very useful site. It includes the basics of growing all kinds of garden plants, lawn care, tree, shrubs, pest control and a section of ideas. Also lots of articles. I bookmarked this site for my personal use.

GARDEN.COM http://www5.garden.com/cgi-bin/v2/gelogin/agent=goto&banner=link - A kind of all-round garden site - products, stories, shopping highlights, editor's picks, what's new, garden doctor, a plant finder for specific conditions, herb garden, and more.

GOSOILS.COM http://www.gosoils,con/What/welcome.htm - Free information, news, services and resources all relating to organic gardening. Links to other organic Web sites.

REBECCA'S GARDEN http://www.rebeccasgarden.com/home.html - Lots of stuff! How-tos, recipes, tips, tours, planning and more.

WAYSIDE GARDENS http://www.waysidegardens.com - Online catalog shopping - supposedly secure. You can also order a free catalog. ✳

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slo bytes welcomes new members

Roland Burnham
Lori Johnson
Robert Graham

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records to MP3

Hands free recording of albums and tapes to your PC while automatically separating songs in real-time and stopping when finished.

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http://www.hitsquad.com/smm/programs/Audio_Tools/
Shareware: 10 minute recording limit per session. $20 registration

Audiotools 2.52
In order to properly record audio from analog sources, tracks must be created with spaces, and noise must be reduced. Audiotools helps you burn your music onto CD by automating this potentially time-consuming process. real-time noise reduction and parametric eq as well as expanding file support from just PCM wave files to ACM files, allowing compression recording from radio, telephone or any source and producing audio for burning to Audio CD, mastering into .MP3s or just burning to CD-ROM

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Name: Roy <mailto:necroharmonic@aol.com>
Date: November 05, 1999 at 17:29:13
Subject: soundcard needed to put audio tape to cd
Comment:
Anybody out there know anything about a soundcard I might need to put audio recordings (like audio tapes , lps , etc) onto cd ? I'm not sure if my current soundcard is suffice ? Please help !!haha

Name: Al <mailto:alscc@texoma.net>
Date: November 05, 1999 at 17:49:14
Subject: soundcard needed to put audio tape to cd
Reply:
Roy,
Any sound card with a line in plug will work. Just plug tape output to line in.
Al

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this as a small glitch in one music track is not devistating. The same glitch in the middle of a software program on CD means disaster.

So what if you want to take existing commercial audio CD's and convert them to MP3 files to play on your computer? There is a free program out there written by Iomega called Recordit, although I did not find it on their homepage. Any netsleuths out there have the url? Rioport is a shareware program (www.rioport.com) which does the job quite well. They give you a limited number of conversions before you have to buy the program. I recall I paid $29 for the license, but don't hold me to those numbers. If you have more $$$ and really want software with all the bells and whistles to convert everything, then purchase Easy CD Creator 4.0 Deluxe. This program lists for $99.

Now what good is a newly "burned" CD without a label? Although there is an added expense for making nice labels, it's sort of like not making your bed in the morning if you leave your CD without a label. It just looks undone. My Memorex label maker came with a watered down version of the commercial software program, SureThing CD Labeler. For the cost of the upgrade to the full program, one gets numerous backgrounds, fonts, and much more. Just remember to put the label on the correct side, or you can start over from step one!

We changed gears a little, with 20 minutes left in the early meeting. Typing is no big deal to me, I use AOL's Instant Messenger all the time, but it's much nicer to talk to the person on the other end via the internet. Two programs were shown, both of which behaved themselves for my presentation! The first is DialPad (www.dialpad.com). This is the ONLY free computer to telephone program I know of. Yes this means you can use a microphone and speaker or headset and talk to anyone in the United States for free. A headset gives much better results and costs between $10 and $20. I also purchased two 6' extension cords so I can plug my speakers back in without reaching to the back of my computer. Register with a name and password, allow it to download a couple small programs and certificates to your computer, and you are ready to go. When I first started using DialPad there were two million subscribers. It's over three million now. Bandwidth seems to be the major drawback. During certain times of the day the connection is so poor that it's almost impossible to use. And it will get worse with more subscribers. Will it last? Personally I doubt it, unless they can improve quality soon. We did call Teri, my counterpart and MAJOR contributor to this newsletter, and the voice connection was quite good. Maybe everyone is watching football on Sunday afternoon, I don't know. The second proram where you can use voice over the internet between TWO COMPUTERS is Microsoft's NetMeeting. Here you have the ability to see the person on the other end, although by doing so, bandwidth is cut and the voice can become choppy. NetMeeting also supports splitscreen chat in typing mode, a "white board" which looks like PC Paint but both people can draw in realtime, both seeing the same thing on both ends of the connection. Add to this a method of transferring files or pictures back and forth and you're about as close to the other person as possible without physically being present on the other end of the line.

The new beta version of Instant Messenger ver 3.5.1713 also has a chat feature (voice to voice) and file transfer capabilities, but the beta software must be on both computers. It's a little more primitive as you need to push a button (like CB) to talk.

After a short break, a representative from Comm-Unique Software demonstrated some dazzling software. Basically they make Plugins, that is they take existing software and integrate their software into it as an inhancement. BladePro was the first to be shown and is a Plug-In for Photoshop, Corel Paint, or any other graphics program created within the last seven years. It extends existing tools in those programs. Text is rendered with many different effects including glare, glass, texture, iridence, and more. You can even choose some presets that come with the program. Fandango is a stand-a-lone screen-saver. Load existing images and away it goes. It is more complicated than that, but the results are worth looking at. ArtFx creates a slideshow with many different transisitions. It acts as a screensaver. He also showed thier pressure sensitive pen that acts in place of your mouse. A click of the pen, it's a mouse, another click, it's a graphic pen. You'll need a USB port for this one. It's also available for the MAC. Lastly he demonstrated their WebCam called PC Vision. I thought the architecture of this little camera that sits on top your your monitor was very good. It sits on a stand and can be rotated for closeups of coins, handwriting, etc. The focal length is almost limitless going down to about one inch to infinity. The images were quite clear and sharp. Since you can capture those images it acts as a digital camera. The disadvantage is that it must be hooked to your USB port to work.

So what's happening this month? Look for more on Linux in the early meeting. Chad Dodd, System Administrator for SLO Net, will extend the Linux introduction given by Alan Raul in January. The general meeting at 2:30 will see Terry Wingate, IRS e-file Coordinator for the San Luis Obispo & North Santa Barbara Counties, talk about the IRS Electronic Filing System.

So has anyone seen any problems with the beginning of 2000? There is one that is causing several people headaches when it comes to browsers. If you are using an early version of Netscape, such as 3.0 you'll see an "expired certificate" pop up when trying to access a secure site. You can cancel, which does not allow you to go

hard disk

before so why expect problems now, I told myself. Well, I do want everything to work right so go ahead and see what you can do Mr. Scandisk, I thought. As it turns out it did find and marked one sector as bad. So now I was impressed and felt the worst was behind me. But that was not to be the case.

When I began to use my browser, Netscape Communicator 4.5, it failed to work because it was unable to find the key file Netscape.exe. Based on this I uninstalled Netscape and reinstalled it again. Now, my browser ran all right but it loaded up perhaps a bit slower than it had in the past. I checked some other programs and they also worked OK so now once again I felt the problems were all behind me. Well I was wrong again.

The next time I powered up the computer Scandisk gives me the same message as last time and wants to start all over, not only checking out the directory structure but also scanning the entire hard drive again. Well, since I had already been there and done that, I exited out of Scandisk and proceeded to use my computer as usual. When I attempted (while using my browser) to pull up for downloading a program using Adobe Acrobat Reader it mysteriously ceased to bring up the selected Adobe file. I asked for it again and after three tries it did bring it up and I was able to print out all but the first page. For some reason the first page printed blank even though it appeared there on the screen in front of me. So, I then decided to uninstall and reinstall Adobe Acrobat, after which it worked flawlessly.

The next day I booted up the computer again, and my old buddy Scandisk appears like the ghost of Christmas past with more dire suggestions of impending disaster. Then I put a message on the User Group Web Site and William LaMartin was kind enough to respond

in the discussion area of the Web Site, but he phoned me as well. In our phone conversation he suggested that I might want to consider buying and using a copy of SpinRite about which he had written recently, so I took his advice and did so. I was able to download a copy direct from their web site and was using it before the day was over.

The program was simple to use and in the areas of the disk where my hard drive was apparently in good shape it ran very fast. Where there apparently were problems it spent a good bit of time working with one cluster after another.

When I began SpinRite I had been told by Scandisk that I had only one bad cluster. SpinRite found another 40 bad clusters, plus it recovered data from about 18 other places. Most of the bad sectors were in areas where no data was stored so I guess I was lucky there. I set it on level 5 which is the highest and most thorough setting and which not only attempts to recover data but also to make previously unreadable sectors readable. When I started, SpinRite estimated all this would take about 10 hours on my computer. It actually took about 17 hours, so obviously it had a lot of work to do. My spirits were bolstered by all the good things it said it was doing. The messages on the log were so well written and to the point it would not have been difficult to think I was directly connected to some human typist inside there somewhere who was talking to me personally.

I now started up the computer once again, this time thinking that now I have all the gremlins removed. Not the case. Once again Scandisk starts to roll forward like a bad nightmare. This time the problem is one of my Netscape plug-ins. It seems some images produced by the plug-in and stored on the hard drive are corrupted but this program has an uninstall program so I use it thinking this will get rid of this problem. Well, the uninstall program tried but it could not read all the information it needed to uninstall the plug-in. Once again I was stumped. I couldn't

remove this corrupted program from the computer because some part of the uninstall program is apparently corrupted. At this point I contacted Dell computer on their 24 hour toll free technical line and was instructed to run Scandisk from Windows using "Programs/accessories/system tools/scandisk." Previously, I had run Scandisk only when the computer first started. Apparently this runs the program from DOS. Well I was impressed; running Scandisk from Windows seemed to do the job although it took the program about four (4) hours to run on my computer, a Dell Dimension XPS P166s, using Windows 95. I am certain much of this time was caused by Scandisk having great difficulty reading the drive.

Just to see what would happen on startup I went to the shutdown window and selected RESTART THE COMPUTER, and it restarted without pulling up Scandisk again. Then I got really confident and selected SHUT DOWN THE COMPUTER and after a short while started it up again. This time Scandisk was back again suggesting I might have problems with one or more disk drives so I let it run again to see if it would do any better now that Scandisk run from Windows had been so successful. It began to do a full hard drive scan. Finally I got a message that "Windows has detected a registry configuration error click here to restore this from a known back up copy." I selected this option, really I didn't feel I had any choice, and the program ran until completion. I then got a message that "At least one area of drive C has sustained physical damage —although such damage might be caused by an isolated incident such as a power failure, it is often a sign of impending hard drive failure." The message further suggested that I run Scandisk daily for awhile and if more errors develop the hard drive should be checked by a qualified technician.

At this point I shut down the computer and rebooted from a cold start and miraculously everything ran perfectly. I shut down the computer several times

hard disk

and it restarted and ran without any incident the rest of that day. The next day the old problem was back again.

I found that my 3-year parts warranty with Dell Computer would expire January 22, 2000 so perhaps I was in luck. All this happened in mid December. I phoned the Dell 24-hour line again and got another technician. I learned that they maintain a call log and the new guy was fully up on my earlier problems. He agreed it sounded like a hard drive problem but asked if I still had the Diagnostics disk that came with my computer when it was new three years ago. I did. He asked that I run that program and then call back on the technical line. He also guided me through the start up part of the diagnosis. The Dell technician suggested that this test might take an hour or more. Well it only took about 20 minutes before the program stopped and announced an unreadable area on the disk and announced it as a hard drive failure.

I called Dell back again and they said they would send me a new hard drive under my warranty. Now I only have to learn how to install a new hard drive, which I have never done before but Dell tells me it will come with instructions and if I have problems I can call back and they will walk me through the process. The number is toll free which is a big help although on average it takes about 20 minutes before the technician comes on the line so I spend that playing a computer game while holding the phone to my ear.

The replacement drive is covered by my warranty as long as I return the defective drive to Dell. That makes sense, otherwise there may be too much of an incentive for an unethical individual to talk Dell into a replacement drive when the existing drive is still in good working condition.

When I bought this computer several years ago Dell had set it up so I could make copies of all the supplementary files Dell had installed in addition to Windows, including special video drivers, Windows 95 drivers, etc., which were not on the Windows 95 disk. Now that I have had a hard drive failure, I am so glad I produced these discs at a time when the computer was new and all was working flawlessly.

The replacement drive arrived by Airborne Express Monday morning. The Dell technician had authorized it the previous Friday evening. Now, on Monday morning I got out my original Windows 95 disc, the special Dell driver discs, my various program discs and called Dell for assistance. Since this was my first time doing this sort of thing I wanted all the hand holding I could get.

I thought I would have to run Fdisk and Format the new drive but Dell said that was not to be necessary since the drive was already set up and ready for loading Windows 95. I booted up using the Dell systems disk but when the Windows 95 disc was put in the CD-ROM drive nothing happened. The CD ROM drive would not operate. The Dell technician had me look for the mscdex.exe file, but for some reason it could not be found. It was also not to be found on any of the special discs I had prepared when the computer was new. The Dell technician then wanted to know if I understood DOS because he needed my help using DOS to get my machine functioning. I indicated I felt I knew enough to be of assistance.

I was then instructed to disconnect the CD ROM drive and attach those connections to my old hard drive which enabled us to copy the mscdex.exe file from there along with a number of other files the Dell technician indicated were necessary. We ended up with a modified Systems disc, which also contained the additional files Dell required. I had to exercise a lot of care to make certain that the old hard drive did not come in contact against any other metal parts of the computer possibly causing a short of some sort. I was able to rig a book so that it provided the necessary insulation. And, of course, the computer was turned off

whenever any of these connections were changed. I must tell you that it had me holding my breath at times.

Finally, at the Dell technician's direction, the config.sys file was edited and in a short time the CD-ROM drive was functioning properly. After that Windows 95 was installed along with my old programs and files. I did find that some of my accessory items, such as the all important solitaire and hearts games were not installed but I learned that I could go to the Control Panel and select "Add/Remove" programs, then double click on "Accessories", select the missing games and insert the Windows 95 disk and now include them on my hard drive. This was all very new to me since I am much more a computer user than I am a computer technician.

Then I thought disaster had struck again because now my computer had no sound. However, I found that one of the speaker wires had become partly disconnected and all the sounds returned.

Once I had everything running again, I mailed the old hard drive back to Dell as part of their exchange rrangement. The old drive was put in the box in which the new drive was shipped and protected with the same materials used for the original shipment. Dell had a return prepaid Airbill for Airborne so all I had to do was call Airborne who came by the house several hours later and picked up the old drive and got it on its way to Dell.

The drive I returned was manufactured by Western Digital, and the new one was a "refurbished" drive made by "Quantum Fireball." The name infers that it is fast and frankly it seems to be faster than the old drive. Of course it is hard to tell since the old drive was in poor shape and perhaps had been gradually slowing down over the last couple of years, making comparisons difficult.

I am happy with the result. Since I had

iomega recordit

http://www.theonlinemall.com/freesoftware.html

Here's a fun useful program for music lovers and note takers.Recordit allows you to record music from your favorite CDs onto your hard drive. It also com- presses the file so it will not take up as much space.

The program was written for Iomega (the Zip/Jaz Drive people) but I use it with a Syquest removable disc drive and my generic harddrive.

I use it to record my favorite music tracks from cd. The program size is 2.8MB, well written, and interfaces with Windows 95/98 correctly. Recordit also can be uninstalled properly by Windows 95/98. It requires at least a 133mhz CPU w/ at least 16 megs of ram, and a fairly fast harddrive, and at least a 8X cdrom player (also a good idea to run Defrag on your drive before recording). I tried to run it on a P-90mhz laptop with a 4X CD, but it wasn't fast enough. It runs great on my desktop system (233AMD mmx).

Recordit allows you to record through your microphone and also to mix voice with music. Some of you may have copied a CD to your drive and were disappointed to find out it ate up a gig of space! Now with Recordit you can fit 1-2 hours of music on a Zip 100mb disk or 10-30 hours per Gigabyte. For voice recordings, you can fit 10 hours of speech on a Zipdisk and over 100 hours per Gigabyte. Records in standard MP2 format. Play it back randomly, in sequential order, repeat, rename songs, change order, run minimized in tray and enjoy. The user screens are good, and the program is easy to use (allows drag-n-drop of song files)

As to quality? The recordings I made from CD were excellent with no drop in sound quality that I could notice. I have not used the sound recording from microphone yet, but if it can handle a CD, I'm sure it will handle voice. And best of all, the price is right(free), so give it a try! Also available for Macintosh users (Mac version not tested yet) ✦

all about cd media

The Layers of a CD from Play Side to Label Side

A compact disc or CD-ROM has five layers. Starting with the shiny side of the CD (the side opposite the label, also called the "play side") facing down (the way you place it into your CD player), the layers are as follows (see Figure on page 10):

1. A thick, soft, clear plastic layer. This layer comprises the bulk of the CD's thickness and weight. It serves two purposes. First, it protects the data layer from damage on the play side. Second, it acts as a lens to focus the CD player's laser onto the data layer so it can more easily read the data (much the way lenses in eyeglasses help people's eyes focus on the words on a page).

2. The data layer. The data layer is where the music and other information is stored. It's the layer that the CD player "reads" in order to create the music, graphics, data files, etc. The data layer is molded or pressed into the top of the clear plastic layer (see above). The data in the data layer is arranged in tracks that spiral like the grooves on a vinyl record (except CDs are read from the "inside out", the opposite of vinyl records).

3. A reflective layer. This metallic layer is located on top of the data layer. It allows the disc to function like a mirror, reflecting the CD player's laser back to the detector in the CD player after it reads the data layer. It's this layer that gives the CD's play side its shiny appearance.

4. A thin, hard protective layer. This layer is an ultra-thin plastic coating that is added to provide some protection for the reflective and data layers, while also forming a surface upon which the label information can be printed.

5. The label layer. This layer is printed on top of the protective layer. It contains the title, graphics, band, and other information to identify the contents of the disc. The top surface of this label is called the "label side".

Reading a CD

Unlike a vinyl record, which is read by a needle that physically sits within the data grooves, a CD is read by

cd media

using a laser beam to "touch" the data. Here's how it works: In an undamaged disc, the CD player's laser beam enters the CD on the play side, travels through the CD's clear plastic layer, picks up information from the data layer, then bounces off the reflective coating on the back side of the data layer (see figures page 10). The reflected laser beam then travels back through the clear plastic layer, out of the CD, and into the CD player's "detector". The detector then helps the CD player convert the information carried by the laser into sound. CD-ROM drives, DVD players and other optical disc players work in much the same fashion.

The Differences Between Audio CDs, CD-ROMs, DVDs, and Other Optical Discs

CD-ROMs, Digital Versatile Discs (DVDs), Recordable CDs (CD-Rs), and Re-writable CDs (CD-RWs) are all optical discs that are read with a laser. They are all approximately 4.72-inch diameter, 0.050-inch thick plastic discs that look very much alike. The primary difference is in how the data is en-coded in the data layer and what is done with that data by the player, drive, or other device used to read it.

Audio CDs, CD-ROMs, and currently available DVDs are all pre-recorded (meaning the data is molded into the data layer at the factory). Recordable CDs are written by the consumer using a special disc-writing machine. CD-Rs can only be recorded once. CD-RWs can be recorded and re-recorded many times.

DVD players use a different type of laser (shorter wavelength) than the other players. This laser is capable of reading data points that are smaller and closer together than the con-ventional laser in CD players or CD-ROM drives can read. Because DVD data points are closer together, more of them can fit on a disc of the same size.

As a result, DVDs can hold about seven times as much data as an audio CD or a CD-ROM, allowing them to be used for applications requiring lots of data (like full-length movies with multiple soundtracks, graphics-heavy video games, etc).

Another result of the different laser in a DVD is that the clear plastic layer (that acts like a lens) only needs to be about half as thick for a DVD as it does for an audio CD or CD-ROM. Hence, two DVDs can be placed back to back, resulting in two play sides and no label side.

This arrangement further doubles the data capacity of a DVD. In terms of susceptibility to damage, two- sided DVDs can have "play-side" damage on either side.

The good news is that such damage is usually repairable and two-sided DVDs can't have label-side damage (which cannot be repaired). ✶

avery wizard for microsoft word
by Lou Harris

http://www.alamopc.org Alamo PC Organization - February, 2000

This is a fun little program for using Avery Labels of every size and description. It comes on 3.5 diskettes and CD-ROM and is available from the Avery Web site for a free download at www.avery.com.

It automatically puts an Avery logo icon on the MS Word tool bar. Clicking on the icon brings up the Wizard that walks you through the selection of the label you want to use, inserting your text, etc. Just about any size/shape label you want is there — over 135 items are listed including address and shipping labels, diskette labels, name badges, file folder labels and many more.

The diskettes/CD-ROM come packed with some Avery samples. The Avery

Wizard helps you create and save a reusable mailing list. It merges MS Access, dBase, Paradox, MS Excel and FoxPro as well as other data formats supported by MS Word. You can preview and change the look of your labels before printing. The Wizard even suggests the font and alignment for each product.

Improvement is needed in adding a graphic, which is tedious but possible. The instructions can be found in the "Help" file.

System Requirements: MS Word '97 or MS Word '95, v. 7.0 or v.6.0 and 2Mb hard-disk space.

Lou Harris is a former U.S. Air Force Officer and college professor who now has a desktop publishing business. She is active in Daughters of the American Revolution and several other organizations. She is married to Bob Harris, one of the Directors of Alamo PC Organization. ✶

what's new

to that site, or you can ignore the warning and continue on. IN MOST INSTANCES ignoring the warning won't cause problems. BUT, it did for me when accessing my Bank of America Account. It let me in alright, but then froze my account which required a phone call to get reinstated. You'll need at least Netscape 4.6 or their latest 4.7 or Microsoft's Internet Explorer 4.0 or 5.0 to avoid this problem. ✶

hard disk

I am happy with the result. Since I had no prior experience with this sort of thing, it did take a lot of my time. But then, the price was right. The phone calls to Dell did not cost me anything, and their personnel were skilled, helpful, courteous, and took the time needed to get the job done. ✶

club information

HARD COPY is a monthly publication of SLO BYTES PC User's Group located in San Luis Obispo, California. Information in this Newsletter is derived from both our own membership and other PC User Group Newsletters. The purpose of this publication is to inform our members of meetings and provide information related to the use of IBM PC's and compatible computers.

Membership: Dues are $25 per year. Full membership entitles you to our monthly newsletter, full use of the public domain software library software drawing at the end of the meetings.

Article Submission: Deadline for submission of articles is the 15th of each month. Articles should be provided in ASCII format without any type of formatting from your wordprocessor including tabs, indents, extra spaces, or highlighting. We prefer articles on disk but will accept hardcopies if necessary.

Disclaimer: Neither SLO BYTES PC User's Group, its officers, editors, or contributors to this newsletter assume liability for damages arising out of this publication of any article, including but not limited to the listing of programming code, batch files and other helpful hints.

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BOB WARD, SECRETARY
2100 Andre Ave.,
Los Osos, CA. 93402
(805) 756-2164

Member of
Association of Personal Computer User Groups
APCUG

meeting times

GENERAL MEETINGS are held the 1st Sunday of each month. Our meeting location is the San Luis Obispo I.O.O.F. Hall on Dana Street.

The general meeting starts promply at 2:30 p.m.

Special Interest Groups (SIGS) meet at 1:00 p.m.–2:15 p.m.

slobytes website

WWW.THEGRID.NET/SLOBYTES/

slobytes officers

R. Miklas (Pres)   rmiklas@bigfoot.com
G. Kuncir (V.P.)   gkuncir@thegrid.net
B. Ward (Sec.)   bward@thegrid.net
M. Baxendale (Tres) marvin@surfari.net
B. Ward, editor

treasurer's report

february 15, 2000

OPERATING FUND

Beginning Balance	$1,620.16
Income	
Membership Dues	375.00
Refreshments	26.25
Expenses	
Room Rent	75.00
NL Xerox	46.65
Postage	99.00
Refreshments	20.75
New Balance	$1,780.01

EQUIPMENT FUND

Beginning Balance	$52.74
New Balance	$52.74